

- 1) A method of connecting a first V.34 enabled fax machine to a second V.34 enabled fax machine over a network utilizing at least one gateway that operates in accordance with the T.38 un-enhanced protocol, said fax machines having an initial handshaking process during which an AnsAm signal consisting of a 2100  
5 Hz tone with a 15Hz envelope is generated, said method including:  
    placing a call by said first fax machine to said second fax machine over a voice grade connection,  
    generating an AnsAm signal by said second fax machine in response to said call,  
10      modifying the AnsAm signal generated during the initial handshaking by removing the 15 Hz envelope, whereby the first fax machine does not generate a CM tone, and said second fax machine falls back to G3 mode, and  
    said first and second fax machine communicate using the G3 protocol.
- 15 2) The method recited in claim 1 wherein said network is an IP network.
- 3) The method recited in claim 1 wherein both of said fax machines are connected to said network by gateways that use the un-enhanced T.38 protocol.
- 20 4) The method recited in claim 1 wherein said first fax machine is connected to said network by a un-enhanced T.38 gateway and said second fax machine is connected to said network by an enhanced T.38 gateway.
- 5) The method recited in claim 1 wherein said second fax machine is connected  
25 to said network by a un-enhanced T.38 gateway and said first fax machine is connected to said network by an enhanced T.38 gateway.
- 6) The method recited in claim 1 wherein said initial handshaking is in  
30 accordance with the V.8 handshaking protocol.
- 7) A method of connecting a first V.34 enabled fax machine to a second V.34 enabled fax machine over a network that has one or more gateways that operate in accordance with the T.38 un-enhanced protocol, said fax machines having an

initial handshaking process during which a CM signal is generated which includes a bit indicating that the calling fax machine is V.34 enabled, said method including:

- 5       placing a call to said second fax machine by said first fax machine over a voice grade connection,
- generating an AnsAm signal by said second fax machine in response to said call,
- generating a CM signal by said first fax machine, said CM signal having a bit set to indicate that said first fax machine is V.34 enabled,
- 10       modifying said CM in said gateway to disable said bit indicating that the calling fax machine is V.34 enabled, and
- said second fax machine falls back to G3 mode, and
- said first and second fax machine communicate using the G3 protocol.

15   8) The method recited in claim 7 wherein said network is an IP network.

9) The method recited in claim 7 wherein both of said fax machines are connected to said network by gateways that use the un-enhanced T.38 protocol.

20   10) The method recited in claim 7 wherein said first fax machine is connected to said network by a un-enhanced T.38 gateway and said second fax machine is connected to said network by an enhanced T.38 gateway.

25   11) The method recited in claim 7 wherein said second fax machine is connected to said network by a un-enhanced T.38 gateway and said first fax machine is connected to said network by an enhanced T.38 gateway.

30   12) The method recited in claim 7 wherein said initial handshaking is in accordance with the V.8 handshaking protocol.

13) A method of connecting a first V.34 enabled fax machine to a second V.34 enabled fax machine over a network that includes a first gateway connecting said first fax machine to said network and a second gateway connecting said second

fax machine to said network, said gateways operating in accordance with the T.38 un-enhanced protocol, said fax machines having an initial handshaking process during which an AnsAm signal consisting of a 2100 Hz tone with a 15Hz envelope is generated, said method including:

5           placing a call to said second fax machine by said first fax machine over a voice grade connection,

          generating an AnsAm signal by said second fax machine in response to said call,

          modifying said AnsAm signal generated during the initial handshaking in  
10       one of said gateway gateways by removing the 15 Hz envelope,

          whereby the first fax machine does not generate a CM tone, said second fax machine falls back to G3 mode, and  
said first and second fax machine communicate using the G3 protocol.

15       14) A system including;

          a first V.34 enabled fax machine,

          a second V.34 enabled fax machine,

          a network connecting said first and second fax machines, said network including one or more gateways that operate in accordance with the T.38 un-  
20       enhanced protocol,

          said fax machines having an initial handshaking process during which an AnsAm signal consisting of a 2100 Hz tone with a 15Hz envelope is generated,

          a program in one of said gateways which modifies said AnsAm signal generated during the initial handshaking by removing the 15 Hz envelope,

25       whereby the first fax machine does not generate a CM tone, and said second fax machine falls back to G3 mode, and

          said first and second fax machine communicate using the G3 protocol.

15) The system recited in claim 14 wherein said network is an IP network.

30       16) The system recited in claim 14 wherein both of said fax machines are connected to said network by gateways that use the un-enhanced T.38 protocol.

17) The system recited in claim 14 wherein said first fax machine is connected to said network by a un-enhanced T.38 gateway and said second fax machine is connected to said network by an enhanced T.38 gateway.

5 18) The system recited in claim 14 wherein said second fax machine is connected to said network by a un-enhanced T.38 gateway and said first fax machine is connected to said network by an enhanced T.38 gateway.

19) The method recited in claim 14 wherein said initial handshaking is in  
10 accordance with the V.8 handshaking protocol.

20) A system including;  
a first means operating according to the V.34 fax machine protocol,  
a second means operating according to the V.34 fax machine protocol,  
15 network means connecting said first and second fax machines, said network means including one or more gateways means that operate in accordance with the T.38 un-enhanced protocol,  
said first means having an initial handshaking process during which an AnsAm signal consisting of a 2100 Hz tone with a 15Hz envelope is generated,  
20 program means in one of said gateway means which modifies said AnsAm signal generated during the initial handshaking by removing the 15 Hz envelope, whereby said first means does not generate a CM tone, and said second means falls back to G3 mode, and said first and second means thereby fall back and communicate using the G3 protocol.

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21) In a system for connecting a calling Super Group 3 fax machine and a called Super Group 3 fax machine over an IP network that includes gateways that operate in accordance with the T.38 un-enhanced protocol, said fax machines  
30 initially connecting over a voice grade line using the V.8 protocol, whereby the called fax machine generates an AnsAm signal, a method including the steps of:  
modifying said AnsAm signal whereby the called fax machine does not respond to the AnsAm signal with a CM tone,

timing out by said called fax machine since it does not receive a CM signal,

said called fax machine falling back to G3 mode as a result of said time out, and

5       said calling and called fax machines proceeding to communicate in G3 mode.

22) A method of connecting a first V.34 enabled fax machine to a second V.34  
10   enabled fax machine over a network by at least one gateway that operates in accordance with the T.38 un-enhanced protocol, said fax machines having an initial handshaking process during which an AnsAm signal consisting of a 2100 Hz tone with a 15Hz envelope is generated, said method including:

      placing a call by said first fax machine to said second fax machine over a  
15   voice grade connection,

      generating an AnsAm signal by said second fax machine in response to said call,

      modifying the AnsAm signal generated during the initial handshaking by removing the 15 Hz envelope, whereby the first fax machine does not generate a  
20   CM tone, and said second fax machine falls back to G3 mode, and said first and second fax machine communicate using the G3 protocol.